

Onychomycosis

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General

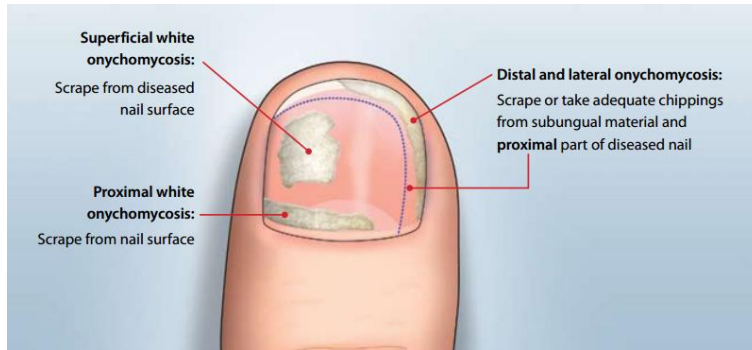
Fungal infection of fingernails or toenails that causes discoloration, thickening, and separation from nail bed. Most often caused by *Trichophyton* dermatophyte. Candida is more common in fingernail infections and with chronic mucocutaneous candidiasis. Non-dermatophyte molds more common in patient with HIV.

Epidemiology

General population	10%
> 60 yo	20%
> 70 yrs	50%
HIV patients	15-40%

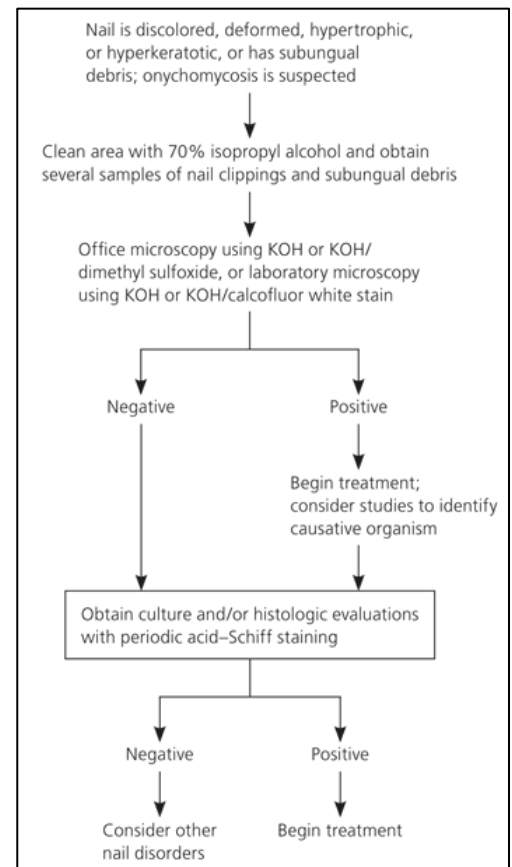
Risk Factors: immunocompromised, diabetes mellitus, peripheral vascular disease, history of nail trauma, genetic predisposition, hyperhidrosis, concurrent fungal infections, psoriasis, smoking, use of occlusive footwear and shared bathing facilities

Diagnosis: Important for successful treatment! Other diagnosis should be considered including chronic paronychia, psoriasis, and chronic nail trauma.



Treatment

- **Azoles and allylamines:** PO. Most common treatment.
 - o Adverse effects include GI upset, headache, rash.
 - o Contraindicated in liver, renal and heart disease. Liver transaminases, renal function and other labs should be monitored.
 - Risk of asymptomatic transaminase elevation in immunocompetent: 2%
 - Risk of elevations requiring termination of therapy: 1%
- **Ciclopirox:** Only topical agent. Used alone, Clinical cure 6-9%, Mycotic cure 29-36%. Used in combo with debridement, mycotic cure 77%. Used in combo with PO terbinafine, mycotic cure 88%.
 - o Adverse effects include irritation at application site
- **OTC:** Snakeroot extract, Renewed nail (cyanoacrylate, undecylenic acid, hydroquinone), Tea tree oil, Vicks Vaporub
 - o Based on small studies with varying levels of cure rates
- **Laser:** Several lasers FDA approved, but limited data on cure rates



Treatment	Cure rate clinical, mycotic	Organisms	Adverse effects	Comments
Terbinafine (Lamisil) - PO	66%, 76%	Dermatophytes, nondermatophyte molds, some yeasts	GI upset, rash, headache	Monitor LFTs
Itraconazole (Sporanox) - PO	70%, 63% (pulse dosing) vs 69% (continuous)	Dermatophytes, nondermatophyte molds, Candida, Aspergillus	Nausea, vomiting, hypokalemia, elevated transaminases & triglycerides, rash	Monitor LFTs, renal fxn and serum drug levels
Fluconazole (Diflucan) - PO	41%, 48%	Candida	Nausea, vomiting, abdominal pain, diarrhea, headache, rash	Not FDA approved. Monitor LFTs, renal fxn, potassium

References:

Onychomycosis: Current Trends in Diagnosis and Treatment. DYANNE P. WESTERBERG, DO, and MICHAEL J. VOYACK, DO, Cooper Medical School of Rowan University, Camden, New Jersey. *Am Fam Physician*. 2013 Dec 1;88(11):762-770.

Collecting specimens for the investigation of fungal infections. <http://www.bpac.org.nz/BT/2011/March/fungal-infections.aspx>